

What is claimed is:

1. A transporter for transporting a load over a surface, the transporter comprising:
  - a support platform for supporting the load, the support platform characterized by a fore-aft axis, a lateral axis, and an orientation with respect to the surface, the orientation referred to as an attitude;
  - at least one ground-contacting element coupled to the support platform in such a manner that the attitude of the support platform is capable of variation;
  - a motorized drive arrangement for driving the at least one ground-contacting elements;
  - a sensor module for generating a signal characterizing the attitude of the support platform; and
  - a controller for commanding the motorized drive arrangement based at least on the attitude of the support platform.
2. The transporter according to claim 1, wherein one or more ground-contacting elements are flexibly coupled to the support platform in such a manner that the attitude of the support platform is capable of variation based on a position of a center of mass of the load relative to the at least one ground-contacting element.
3. The transporter according to claim 1, wherein the sensor module includes at least one distance sensor for measuring a distance characteristic of the attitude of the platform.
4. The transporter according to claim 3, wherein the at least one distance sensor senses the distance between a fiducial point on the platform and a position on the surface disposed at a specified angle with respect to the support platform.
5. The transporter according to claim 3, further including a first component that remains in a substantially fixed vertical position relative to the surface, wherein the at least one distance sensor senses the distance between a fiducial point on the platform and the first component.
6. The transporter according to claim 5, wherein one or more ground contacting elements include a wheel having an axle, and the first component is fixed relative to the axle.
7. The transporter according to claim 5, wherein one or more ground contacting elements include a wheel supported by a frame, and the first component is fixed relative to the frame.

8. The transporter according to claim 2, wherein the distance sensor is selected from the group of distance sensors consisting of an ultrasonic distance sensor, an acoustic distance sensor, a radar distance sensor, a contact sensor, and an optical distance sensor.
- 5 9. The transporter according to claim 1, wherein the attitude of the support platform is capable of variation based at least on a signal generated by a remote control device.
- 10 10. The transporter according to claim 9, further including a powered strut coupled to the platform, the powered strut capable of varying the attitude of the support platform based at least on the signal generated by the remote control device.
- 15 11. The transporter according to claim 1, further comprising a user interface, wherein the attitude of the support platform is capable of variation based on a signal generated by the user interface.
- 20 12. The transporter according to claim 1, wherein the controller commands motion in the fore-aft plane.
- 20 13. The transporter according to claim 1, wherein the controller commands motion in the lateral plane.
- 25 14. A method for controlling a transporter having a support platform for supporting a load, the support platform characterized by an attitude with respect to the surface, the transporter including at least one ground contacting elements flexibly coupled to the support platform in such a manner that the attitude of the platform is capable of variation, the transporter further including a motorized drive arrangement for driving the at least one ground contacting element, the method comprising:
- 30       generating a signal characterizing an attitude of the support platform; and  
      commanding the motorized drive arrangement based at least on the attitude.
15. A method according to claim 14, wherein generating the signal includes measuring a distance characteristic of the attitude of the platform.
- 35 16. A method according to claim 15, wherein generating the signal includes measuring a distance between a fiducial point on the platform and a position on the surface disposed at a specified angle.

17. A method according to claim 15, wherein generating the signal includes measuring the distance between a fiducial point on the platform and a component on the transporter that remains in a substantially fixed position relative to the surface.
- 5 18. A method according to claim 14, further comprising altering the attitude of the support platform by changing a position of a center-of-mass of the load relative to the at least one ground contacting element.
- 10 19. A method according to claim 14, further comprising altering the attitude of the support platform based at least on a signal generated by a user interface of the transporter.
20. A method according to claim 14, further comprising altering the attitude of the support platform based at least on a signal generated by a remote control device.

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